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STATUS OF THE VARIABLE OAK LEAF CATERPILLAR IN NORTH DAKOTA - 1972

by

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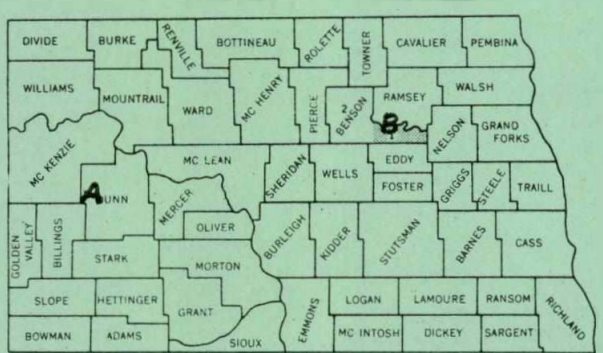
The variable oak leaf caterpillar, *Heterocampa manteo* (Dbldy.), has defoliated hardwoods in two North Dakota locations for 3 years (Fig. 1). This is the second consecutive year its damage has been monitored. Monitoring has been done cooperatively with William Brandvik, Associate State Entomologist, North Dakota Department of Agriculture.



STATE OF NORTH DAKOTA

Figure 1.--Areas in North Dakota included in aerial survey of September 1972.

A - Killdeer Mountains

B - Devil's Lake

Aerially visible defoliation has decreased from 2,760 acres in 1971 to 560 acres in 1972 in the Killdeer Mountains in Dunn County. Heavy defoliation is present on widely scattered patches of paper birch, *Betula papyrifera* (Marsh.), with only very light feeding on other associated species (Fig. 2).

Heavy defoliation also occurred near Devil's Lake in Benson County. Here, 760 acres of damage, down from 1,750 acres in 1971, was apparent on the Sully's Hill National Game Preserve, Fort Totten Indian Reservation, and adjacent private lands (Fig. 3). The primary host is American basswood, *Tilia americana* (L.)

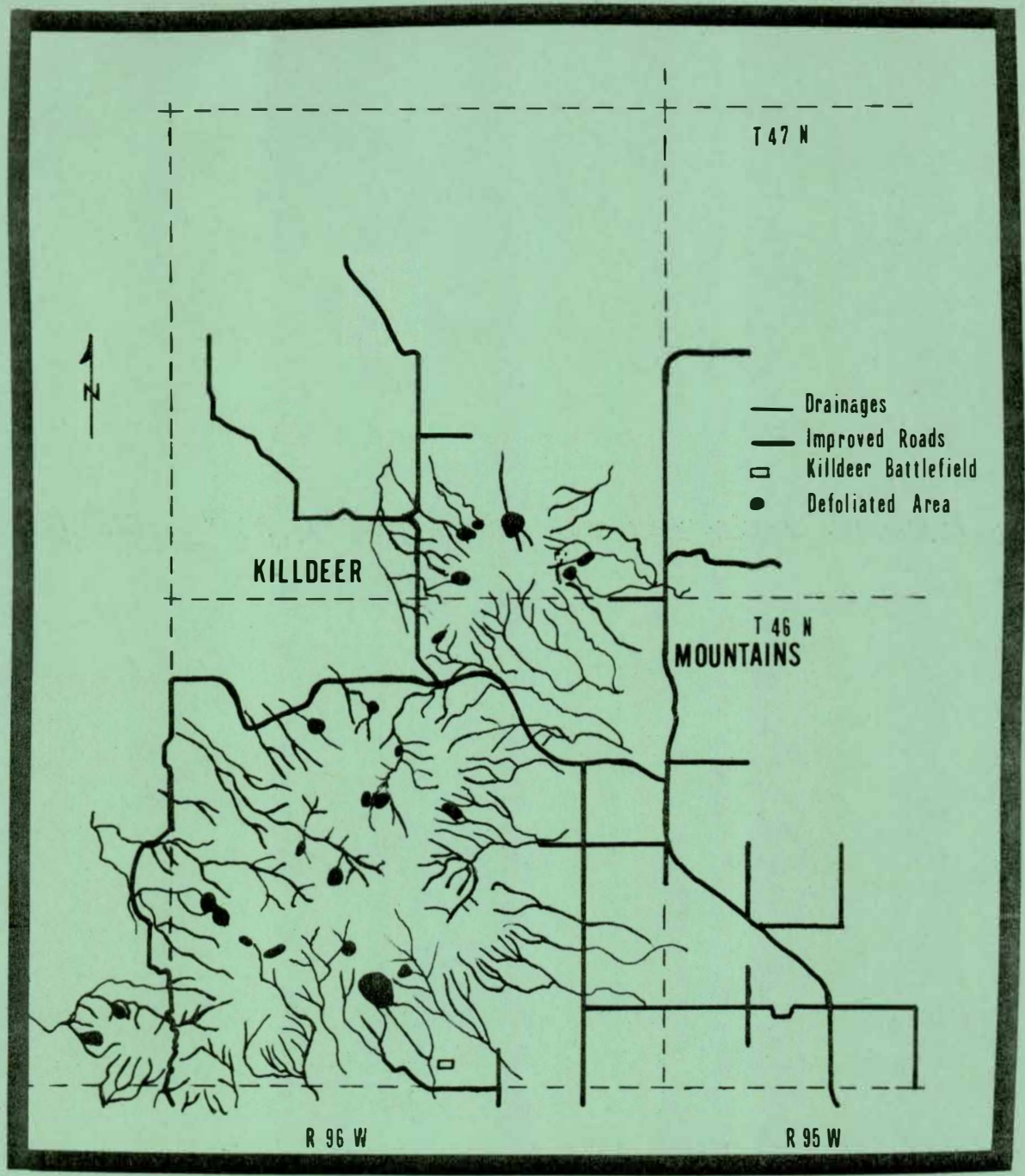


Figure 2.--Location of variable oak leaf caterpillar defoliation in the Killdeer Mountains. Scale: ½ inch = 1 mile.

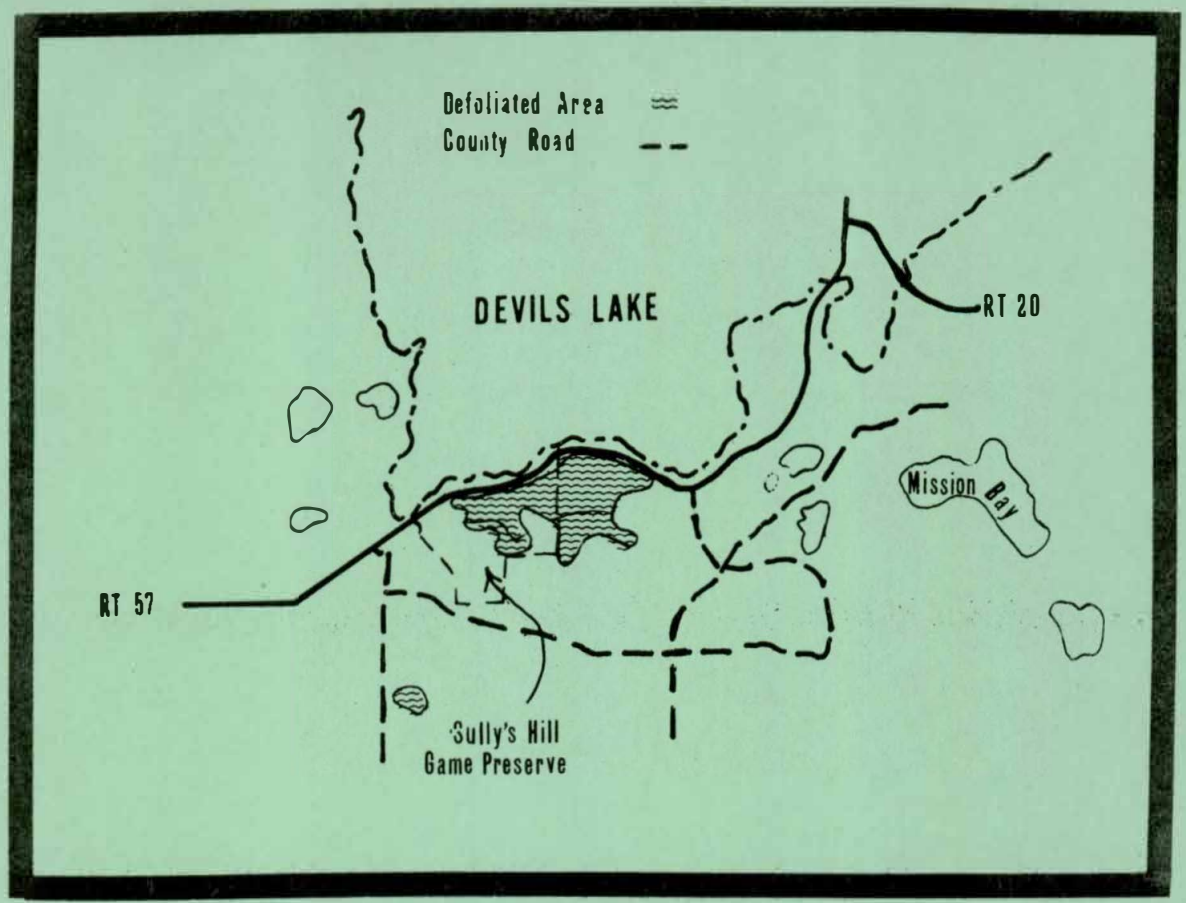


Figure 3.--Location of variable oak leaf caterpillar infestation near Devil's Lake. Scale: ½ inch = 1 mile.

DISCUSSION

The extent of defoliation was reduced in both areas in 1972 over 1971, especially on the secondary hosts. These were only lightly attacked this year.

Wilson (1971) describes variable oak leaf caterpillar epidemics as being common and frequent in the eastern United States. There, outbreaks retain epidemic proportions for only a few years. Toko (1972) indicates an outbreak is currently in its fourth year in Michigan.

The effect of parasites and predators is not fully known, but they are not considered to be highly influential. The most significant natural control is thought to be to overwintering prepupae caused by mouse predation and/or weather. The exact reasons for the collapse of a population are unknown; but the lack of viable prepupae, possibly caused by near starvation due to competition, has been suggested.

CONCLUSIONS

Whether the reduction in the size of the defoliated area in 1972 over 1971 is indicative of a collapse or merely a temporary decline is unknown. Because most of the feeding is late in the season, and ordinarily the buds are not consumed, it is unlikely permanent damage to the trees will result.

REFERENCES CITED

Toko, H. V., 1972. Personal communication.

Wilson, L. F., 1971. Variable oak leaf caterpillar. USDA, Forest Service, Forest Pest Leaflet 67.